PointProbe® Plus Non-Contact / Soft Tapping Mode - PtIr5 Coating

The **P**oint**P**robe® **P**lus (PPP) combines high application versatility and compatibility with most commercial SPMs. The typical AFM tip radius of less than 7 nm and the minimized variation in AFM tip shape provide reproducible images and enhanced resolution.

NANOSENSORS™ PPP-NCSTPt AFM probes are designed for non-contact or soft tapping mode imaging. The combination of soft AFM cantilever and fairly high resonance frequency enables stable and fast measurements with reduced tip-sample interaction. This feature significantly reduces AFM tip wear and sample wear at the same time.

The AFM probe offers unique features:

- metallic conductivity of the AFM tip
- radius of curvature better than 25 nm
- AFM tip height 10 - 15 µm
- high mechanical Q-factor for high sensitivity

The PtIr5 coating is an approximately 25 nm thick double layer of chromium and platinum iridium5 on both sides of the AFM cantilever. The tip side coating enhances the conductivity of the AFM tip and allows electrical contacts. The detector side coating enhances the reflectivity of the laser beam by a factor of about 2 and prevents light from interfering within the AFM cantilever. The coating process is optimized for stress compensation and wear resistance. As the coating is nearly stress-free the bending of the AFM cantilever due to stress is less than 2 degrees.

Please note: Wear at the AFM tip can occur if operating in contact-, friction- or force modulation mode.

This AFM probe features alignment grooves on the back side of the holder chip. These grooves fit to the NANOSENSORS Alignment Chip.

Cantilever data:

Property	Nominal Value	Specified Range
Resonance Frequency [kHz]	160	75 - 265
Force Constant [N/m]	7.4	1.2 - 29
Length [µm]	150	140 - 160
Mean Width [µm]	27	19.5 - 34.5
Thickness [µm]	2.8	1.8 - 3.8

Order codes and shipping units:

Order Code	AFM probes per pack	Data sheet
PPP-NCSTPt-10	10	of all probes
PPP-NCSTPt-20	20	of all probes
PPP-NCSTPt-50	50	---------
PPP-NCSTPt-W	380	of up to 32 probes